

## LIST of PUBLICATIONS

### **FWF Project P28892**

**DOI 10.55776/P28892**

**Prof. Dr. Bernhard Kräutler**

<https://www.uibk.ac.at/en/organic/kraeutler/>

Florian J. Widner, Naziyat I. Khan, Evelyne Deery, Martin J. Warren, Michiko E. Taga and Bernhard Kräutler

Repression of bacterial gene expression by antivitamin B<sub>12</sub> binding to a cobalamin riboswitch

*RSC Chemical Biology* 7, 498-504 (2026) <https://doi.org/10.1039/D5CB00308C>

Florian J. Widner, Klaus Wurst, Markus Ruetz, Christoph Kieninger, Christoph Kreutz, Michael D. Paxhia, Evelyne Deery, Martin J. Warren and Bernhard Kräutler  
B<sub>12</sub>-Cofactor Inactivation by Cobalt to Rhodium Mutation in Methylrhodibalamin – an Antivitamin B<sub>12</sub> and Antibiotic

*ChemistryEurope* 3, e202500157 (2025) <https://doi.org/10.1002/ceur.202500157>

Michael D. Paxhia, Freya L. Hartshorn, Evelyne Deery, Bernhard Kräutler, Martin J. Warren  
Engineering biology and chemical approaches to the construction of vitamin B<sub>12</sub> analogues and antivitamins B<sub>12</sub> as probes and therapeutic agents

*Advances in Microbial Physiology* 87, 257–298 (2025)

<https://doi.org/10.1016/bs.ampbs.2025.07.003>

Christoph Kieninger, Klaus Wurst, Daniel Leitner, Luis P. Peters, Dennis F. Dinu, Markus Wiedemair, Marc-Kevin Zaretzke, Martin Bröring, Stephan Hohloch, Klaus R. Liedl and Bernhard Kräutler

Encasing the Paramagnetic Copper(II)-Ion by the Ring-Contracted Corrin Ligand of Vitamin B<sub>12</sub>

*Chemical Communications* 61, 10606-10609 (2025)

<https://dx.doi.org/10.1039/D5CC02129D>

*Dedicated to the memory of Albert Eschenmoser on the occasion of his 100<sup>th</sup> birthday*

Florian J. Widner, Christoph Kieninger and Bernhard Kräutler

Adenosylrhodibinamide and methylrhodibinamide – organometallic rhodium analogues of the natural cobinamides

*J. Porphyrins & Phthalocyanines* 29, 408-417 (2025)

<https://doi.org/10.1142/S1088424625500348>

*Dedicated to Prof. Karl Kadish on the occasion of his 80<sup>th</sup> birthday*

Ricardo Pérez-Castaño, Juan Aranda, Florian J. Widner, Christoph Kieninger, Evelyne Deery, Martin J. Warren, Modesto Orozco, Montserrat Elías-Arnanz, S. Padmanabhan, and Bernhard Kräutler

The Rhodium Analogue of Coenzyme B<sub>12</sub> as an Anti-Photoregulatory Ligand Inhibiting Bacterial CarH Photoreceptors

*Angew. Chem. Int. Ed.* **63**, e202401626 (2024)

<https://doi.org/10.1002/anie.202401626>

*Dedicated to the memory of Professor Albert Eschenmoser*

Christoph Kieninger, Evelyne Deery, Andrew D. Lawrence, Martin J. Warren and Bernhard Kräutler

Hydrogenobinamide and Nibinamide - Metal-Free Ligand and Ni(II)-Analogue of the Vitamin B<sub>12</sub> Precursor Cobinamide *J. Porphyrins & Phthalocyanines* **27**, 627-633

(2023) <https://doi.org/10.1142/S1088424623500463>

*Dedicated to Prof. Tomás Torres on the occasion of his 70<sup>th</sup> birthday*

Alexandra Tsybizova, Christopher Brenig, Christoph Kieninger, Bernhard Kräutler & Peter Chen

Surprising Homolytic Gas Phase (Co-C)-Bond Dissociation Energies of Organometallic Aryl-Cobinamides Reveal Notable Non-Bonded Intramolecular Interactions

*Chem.- Eur. J.* **27**, 7252-7264 (2021) <https://doi.org/10.1002/chem.202004589>

*Dedicated to the memory of Prof. François Diederich*

Florian J. Widner, C. Kieninger, K. Wurst, Evelyne Deery, Andrew D. Lawrence, Martin J. Warren and Bernhard Kräutler

Synthesis, Spectral Characterization and Crystal Structure of Chloro-Rhodibalamin – A Synthesis Platform for Rhodium Analogues of Vitamin B<sub>12</sub> and for Rh-Based Antivitamins B<sub>12</sub>

*Synthesis* **53**, 332-337 (2021) <https://doi.org/10.1055/s-0040-1707288>

Bernhard Kräutler

Antivitamins B<sub>12</sub> – Some Inaugural Milestones

*Chem. – Europ. J.* **26**, 15438-15445 (2020) <https://doi.org/10.1002/chem.202003788>

Elvin V. Salerno, Nicholas A. Miller, Arkaprabha Konar, Yan Li, Christoph Kieninger, Bernhard Kräutler and Roseanne J. Sension

Ultrafast Excited State Dynamics and Fluorescence from Vitamin B<sub>12</sub> and Organometallic [Co]-C=C-R Cobalamins

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Christoph Kieninger, Klaus Wurst, Maren Podewitz, Maria Stanley, Evelyne Deery, Andrew Lawrence, Klaus R. Liedl, Martin J Warren and Bernhard Kräutler

Replacement of the Cobalt-Center of Vitamin B<sub>12</sub> by Nickel - Nibalamin and Nibyric Acid Prepared from Metal-Free B<sub>12</sub>-Ligands Hydrogenobalamin and Hydrogenobyric Acid

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Elvin Salerno, Nicholas A. Miller, Arkaprabha Konar, Robert Salchner, Christoph Kieninger, Klaus Wurst, Kenneth G. Spears, Bernhard Kräutler, and Roseanne J. Sension  
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Vectors

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Nicholas A. Miller, Lindsay B. Michocki, Roberto Alonso-Mori, Alexander Britz, Aniruddha Deb, Daniel P. DePonte, James M. Glowina, April K. Kaneshiro, Christoph Kieninger, Jake Koralek, Joseph H. Meadows, Tim B. van Driel, Bernhard Kräutler, Kevin J. Kubarych, James E. Penner-Hahn and Roseanne J. Sension

Antivitamins B<sub>12</sub> in a Microdrop: The Excited State Structure of a Precious Sample  
Using Transient Polarized X-ray Absorption Near Edge Structure

*J. Phys. Chem. Lett.* **2019**, *10*, 5484-5489 DOI: 10.1021/acs.jpcclett.9b02202

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Christoph Kieninger, Joseph A. Baker, Maren Podewitz, Klaus Wurst, Steffen Jockusch, Andrew D. Lawrence, Evelyne Deery, Karl Gruber, Klaus R. Liedl, Martin J. Warren & Bernhard Kräutler

Zinc Substitution of Cobalt in Vitamin B<sub>12</sub> - Zincobyric acid and Zincobalamin as  
Luminescent Structural B<sub>12</sub>-Mimics

*Angew. Chem. Int. Ed.* **2019**, *58*, 14568–14572

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Cobalt – my Element

*Chem. Europ. J.* **2019**, *25*, 4870-4870

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Biological Organometallic Chemistry of Vitamin B<sub>12</sub>-Derivatives

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of Abortive Ternary Complex with Cosubstrate Glutathione  
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